Memorandum

To: *Stephanie Vaughn (USEPA)*
Elizabeth Buckrucker (USACE)

From: *Sharon Budney (CDM)*
George Molnar (CDM)

Date: *July 2, 2010*

Re: *Status Report (June 2010)*
CPG Oversight of Physical Water Column Monitoring
Lower Passaic River Restoration Project

On behalf of the United States Environmental Protection Agency (EPA) and the United States Army Corps of Engineers (USACE), Kansas City District, CDM Federal Programs Corporation (CDM) is providing oversight of the Cooperating Parties Group (CPG) remedial investigation/feasibility study (RI/FS) field activities associated with physical water column monitoring (PWCM), and the collection of physical data in the Lower Passaic River (LPR).

CDM oversight activities were conducted June 17 through June 22, 2010. Oversight included the observation of instrument maintenance, and collection of samples in the LPR in support of the CPG PWCM study. In addition, CDM also collected split samples at select locations. All activities were conducted in accordance with the CPG *Quality Assurance Project Plan (QAPP)/Field Sampling Plan Addendum, Remedial Investigation Water Column Monitoring/Physical Data Collection for the Lower Passaic River, Newark Bay and Wet Weather Monitoring, Lower Passaic River Restoration Project*, Revision 4, March 2010.

Photographs of field activities are in Attachment 1. Copies of the logbook notes are in Attachment 2. Copies of the chain of custody records are in Attachment 3.

Instrument Maintenance at Locations below Dundee Dam (June 17 and 18, 2010)
The following summarizes oversight observations of instrument maintenance conducted June 17 and 18, 2010 at river miles (RM) 1.4, 4.2, 6.7, 10.2, and 13.5.

Prior to retrieving moored instruments for their monthly maintenance check, CPG contractor Ocean Surveys Incorporated (OSI) lowered a conductivity, temperature, and depth/optical backscatter (CTD/OBS) meter next the instruments to obtain a profile of real-time measurements through the water column. Afterwards, surface water samples for suspended solids concentration (SSC) were collected three feet above river bottom, and three below river surface via pump mounted to the CTD/OBS meter. Samples were collected by CPG contractor AECOM . During sample collection, real-time readings were measured by the CTD/OBS meter. This was repeated at all locations.

Once the SSC samples were collected, all instrumentation was pulled, cleaned, and inspected for damage. Batteries were checked and replaced if needed, and data were downloaded. All instruments pulled were functioning fine and required no replacement or re-calibration. After servicing, instrument arrays were reassembled and re-deployed within the same area as they were pulled.

After all instruments were re-deployed, crews waited approximately 4 to 9 minutes to allow any suspended sediments stirred up during re-deployment to settle or be swept away. Afterwards, surface water samples for SSC were collected three feet above river bottom, and three feet below river surface. Prior to sample collection, a CTD/OBS meter was lowered to obtain a profile of real-time measurements through the water column adjacent to the meters. Real-time readings were also measured during sampling via pump and tubing which were attached to the CTD/OBS meter.

Coordinates of instruments and water depths at re-deployment are as follow:

- RM 1.4: Northing: 691240.30/Easting: 597996.02; Depth: 17.4 feet (ft)
- RM 4.2: Northing: 692308.14/Easting: 588240.7; Depth: 21 ft
- RM 6.7: Northing: 702833.27/Easting: 586139.61; Depth: 16.4 ft
- RM 10.2: Northing: 719750.28/Easting 592110.15; Depth: 18 ft
- RM 13.5: Northing: 734299.34/Easting: 597207.35; Depth: 14 ft

Instrument Maintenance and Boat-Based Transect Survey above Dundee Dam (June 21, 2010)

The following summarizes oversight observations of OBS meter maintenance, acoustic Doppler current profile (ADCP) transect survey, and collection of surface water samples above Dundee Dam (RM 17.5). Per the CPG QAPP, only an OBS meter is deployed at this location which is affixed to a buoy suspending it three feet below river surface.

Prior to pulling the OBS meter for maintenance, OSI lowered a CTD/OBS meter to obtain a profile of real-time measurements through the water column adjacent to the location of the buoy-mounted OBS meter. Water samples were collected three feet below river surface, and three feet above river bottom while the meter was recording data. Samples were collected by AECOM for SSC analysis.

After sampling, the OBS meter was pulled, cleaned, and inspected, and data were downloaded. The OBS meter was functioning fine and did not require any re-calibration, and was redeployed in the correct location. The coordinates of the buoy-mounted OBS meter and water depth are as follow:

- RM 17.5: Northing: 747517.74/Easting: 594476.63; Depth: 10 ft

Following post-maintenance/re-deployment sampling, OSI conducted a boat-based ADCP transect survey. After the survey, a CTD/OBS meter was lowed at each of four

predetermined locations (P1 through P4) along the transect line to obtain a profile of real-time measurements through the water column and collect samples from three feet below river surface. At the location of the buoy-mounted OBS meter, samples were collected three feet below river surface and three feet above river bottom. All samples were analyzed for SSC, dissolved organic carbon (DOC), and particulate organic carbon (POC). CTD/OBS measurements were recorded in real-time during sampling activities.

CDM oversight staff collected split samples from both depths for SSC, DOC, and POC analysis at Location P2. Samples were collected at the same time as those collected by AECOM via "Y" junction at the end of tubing which was connected to the pump. Split samples and corresponding CPG samples are presented in Table 1. Split samples were delivered via hand courier to the EPA Division of Environmental Science and Assessment (DESA) laboratory for analysis. Copies of CDM's signed chain of custodies can be found in Attachment 3.

Boat-Based Transect Survey at Locations below Dundee Dam (June 22, 2010)

The following summarizes oversight observations of ADCP transect surveys and the collection of surface water samples from locations below Dundee Dam.

CDM oversight staff observed boat-based ADCP transect surveys at RMs 1.4, 4.2, 6.7, 10.2, and 13.5. Transect surveys were conducted during ebb and flood tides. Each survey was conducted in the area of three predetermined locations (P1 through P3) moving across the river channel. Once each survey was finished, crews lowered a CTD/OBS meter to obtain a profile of real-time measurements through the water column. This was conducted at each location followed by the collection of surface water from three feet below river surface, and three feet above river bottom via pump and tubing mounted to the instrument. Samples were collected for SSC, DOC, and POC analysis from locations collocated with moored instruments, and from locations furthest away. These locations consisted of P1 and P3 at every RM. No samples were collected for DOC and POC analysis at location P2 at any RM.

CDM oversight staff collected split samples during the ebb tide transect survey from both depths at locations collocated with moored instruments. Samples were collected for SSC, DOC, and POC analysis, and were collected at the same time as those collected by AECOM via "Y" junction at the end of tubing which was connected to the pump. Split samples and corresponding CPG samples are presented in Table 1. Split samples were delivered via hand courier to the EPA DESA laboratory for analysis. Copies of CDM's signed chain of custodies can be found in Attachment 3.

Table 1
Cooperating Parties Group and CDM Split Sample Identification
June 2010 Physical Water Column Monitoring Oversight
Lower Passaic River Restoration Project
Lower Passaic River, New Jersey

River Mile	Mooring Location	CPG Sample ID	CDM Split Sample ID	QC Samples	Tide Event	Collection Date	Analysis
1.4	P3	10A-E17-T014-P3-AS	10A-E17-T014-P3-AS-C		ebb	6/22/2010	SSC, DOC, POC
		10A-E17-T014-P3-BS	10A-E17-T014-P3-BS-C		ebb	6/22/2010	SSC, DOC, POC
4.2	P1	10A-E17-T042-P1-AS	10A-E17-T042-P1-AS-C		ebb	6/22/2010	SSC, DOC, POC
		10A-E17-T042-P1-BS	10A-E17-T042-P1-BS-C		ebb	6/22/2010	SSC, DOC, POC
6.7	P3	10A-E17-T067-P3-AS	10A-E17-T067-P3-AS-C		ebb	6/22/2010	SSC, DOC, POC
		10A-E17-T067-P3-BS	10A-E17-T067-P3-BS-C		ebb	6/22/2010	SSC, DOC, POC
10.2	P1	10A-E17-T102-P1-AS	10A-E17-T102-P1-AS-C		ebb	6/22/2010	SSC, DOC, POC
		10A-E17-T102-P1-BS	10A-E17-T102-P1-BS-C		ebb	6/22/2010	SSC, DOC, POC
13.5	P3	10A-E17-T135-P3-AS	10A-E17-T135-P3-AS-C		ebb	6/22/2010	SSC, DOC, POC
		10A-E17-T135-P3-BS	10A-E17-T135-P3-BS-C		ebb	6/22/2010	SSC, DOC, POC
17.5*	P2	10A-E16-T175-P2-AS	10A-E16-T175-P2-AS-C	MS **	NA	6/21/2010	SSC, DOC, POC
			10A-E16-T175-P2-AS-X	Duplicate ***	NA	6/21/2010	SSC, DOC, POC
		10A-E16-T175-P2-BS	10A-E16-T175-P2-BS-C		NA	6/21/2010	SSC, DOC, POC

CPG - Cooperating Parties Group
ID - identification
QC - quality control
SSC- suspended solids concentration
DOC - dissolved organic carbon
POC - particulate organic carbon
MS - matrix spike
NA - not applicable; location above head of tide
* - location above Dundee Dam
** - MS only for DOC analysis
*** - field duplicate sample of CDM split sample 10A-E11-T175-P2-AS-C denoted with the prefix "X"

CPG samples and CDM split samples are identified by Program-Event-Transect-Station-Depth-Type; split samples are followed by the prefix "C"
Where:
Program - Two-digit year plus "A" identifying the Spring 2010 Passaic River sampling program
Event - "E" plus two digit sequence number for sampling event
Transect - "T" plus three-digit representation of river miles by tenths. For example, T042 indicates river mile 4.2
Station - "P" plus single-digit sequence for position along transect moving from left bank. For example, "P2" for second location.
Depth - Single character sequence letter for depth interval. "A" for depth interval nearest river surface (i.e., three feet below surface); "B" for intervals of increasing depth (i.e., three feet above river bottom)
Type - Single character for sample type: "S" for normal sample

Attachment 1
Photographs of Physical Water Column Monitoring Activities

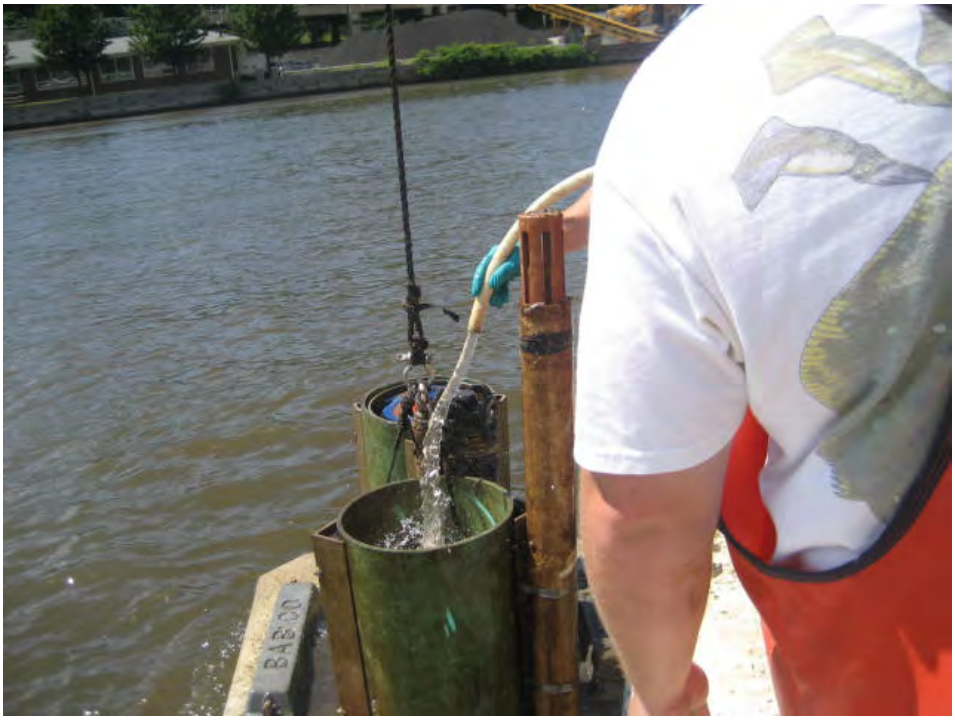

Photo 1. Crews cleaning a CTD/OBS/ADCP mooring array after retrieval.

Photo 2. CTD/OBS/ADCP mooring array after cleaning.

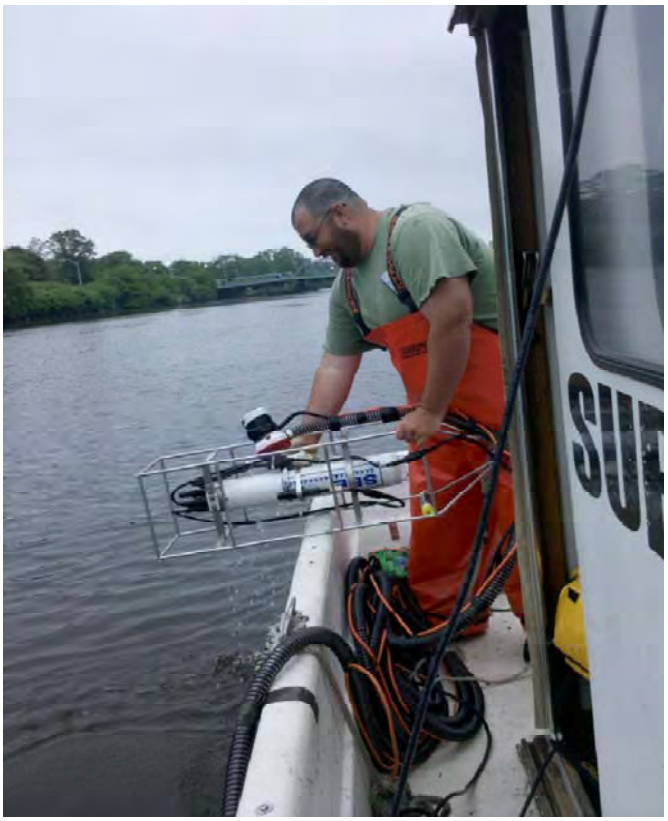

Photo 3. CTD/OBS meter being pulled.

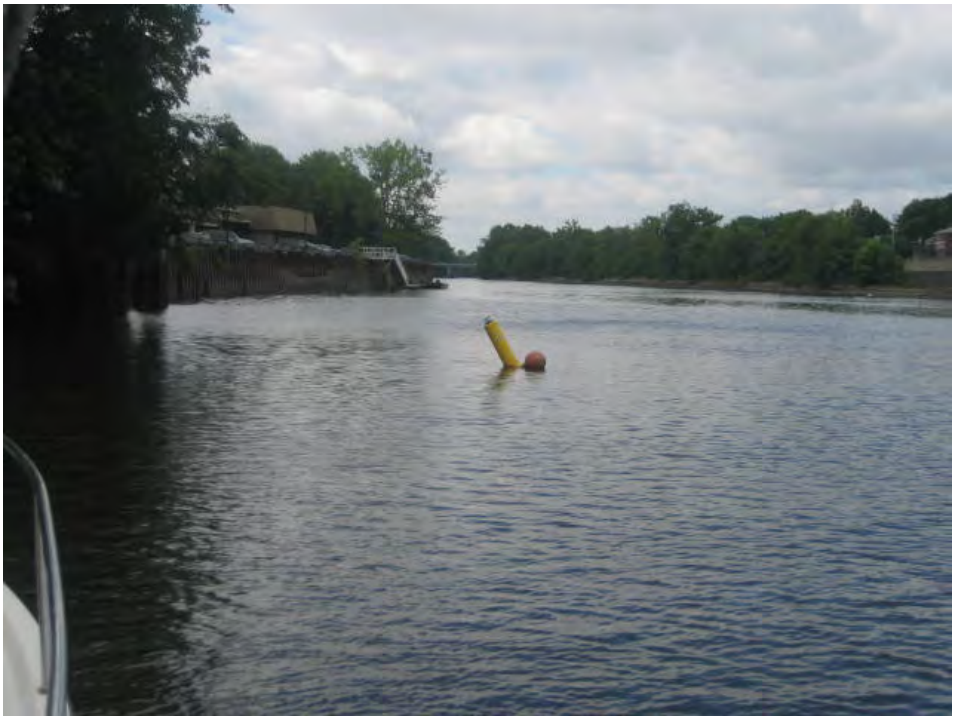

Photo 4. Buoy at RM 13.5.

Attachment 2

Copies of Oversight Field Logbook Notes

Location Lower Passaic River Date 5.25.10

Project / Client Dundee Dam
USACE

1149 AECOM collect 10A-E11-T175-P3-AS
Time: 1549
1152 AECOM collect 10A-E11-T175-P4-AS
Time: 1552

CDM Sample Summary

Sample ID	Time	QA/QC
10A-E11-T175-P2-BS-C	1143	
10A-E11-T175-P2-AS-C	1145	MSID DOC
10A-E11-T175-P2-AS-X	1145	Duplicate

12[00] Heading back to launch area
12[15] Back at docking area - demob
MK offsite - to warehouse

5/25/10

Location Lower Passaic River Date 6-17-10

Project / Client Lower Passaic River PWCM
USACE

07:40 → SO arrives at Passaic Yacht Club. Jon Walter arrives shortly after. OSI crew Jon Walter & Ryan Ballenbach are on boat.
08:00 → OSI departs from Yacht Club en route to RM 13.5. Please note that Jon Walter of AECOM gave health & safety meeting discussing slips, trips & falls etc.
Weather → Sunny, light wind ~ 85°F
PPE → Level D Modified
08:50 → OSI reaches CPG field facility and begins setting up equipment such as winch and GPS antennae.
09:25 → Approach RM 13.5 and perform first cast of day by lowering CTD.
09:27 → AECOM collects bottom sample from 3 feet above river bottom. Sample

SO 6/17/10

is E15-T135-P3-BS
09:28 → AECOM raises CTD 3' below water surface and collects sample E15-T135-P3-AS
09:30 → OSI drops anchor off the side of the boat to hooks onto bottom mooring
09:36 → Ryn Bollenbach of OSI successfully brings bottom mooring to surface and quickly rinses off. OSI proceeds to tie boat off at dock at CPG Field Facility and will begin downloading data and checking if instrument is running properly.
* Please note: For today & tomorrow, CDM will not be collecting any split samples. AECOM will collect 1 x 1-L poly unpreserved for SSC analysis at 3' above river bottom and 3' below water surface. OSI will perform check-test and

SOC 6/17/10

re-deploy bottom mooring. After waiting 15 minutes, OSI will re-deploy bottom mooring. At this point, CDM will record the coordinates along with the depth.
10:37 → OSI is finished downloading data and drives back to RM13.5
10:45 → OSI takes top mooring and downloads data onto computer.
11:20 → YSI is finished cleaning and OSI drops top mooring back into water.
11:28 → OSI lowers bottom mooring into water. Depth is 14.0 ft.
N 734299.34
E 597207.35
11:35 → OSI lowers/casts CTD into water and begins pumping.
11:37 → AECOM collects E19-T135-P3-BS and

Location Lower Passaic Date 6/17/10

Project / Client Lower Passaic River PWCM USACE

collects a duplicate named E19-T135-P3-BT

11:38 → AECOM collects E19-T135-P3-AS from 3' below water surface.

11:40 → OSI is finished re-deploying moorings / buoy at RM 13.5 and proceeds to RM 10.2. Before departy to RM 10.2, OSI took a water level at the CPG Field Facility

12:10 → Arrive at De Jessa Bridge. OSI attempts to take a water level but the piling that they take the measurement from is submerged.

12:13 → OSI casts CTD and touches bottom. OSI raises CTD 3' above river bottom, OSI collects E15-T102-P1-BS

12:15 → OSI raises CTD to 3' below water surface and collects E15-T102-P1-AS.

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Location Lower Passaic River Date 6/17/10

Project / Client Lower Passaic River PWCM USACE

Samples collected will only be analyzed for SSC.

12:20 → OSI lowers anchor to bottom of river to hook onto bottom mooring.

OSI pulls up the YSI connected to the top mooring.

All instruments are out of the water at RM 10.2 to download data onto computer.

13:40 → OSI re-deploys top mooring.

13:45 → OSI lowers bottom-mounted mooring. See below

Depth - 18 ft

N → 719750.28

E → 592110.15

13:52 → OSI lowers ~~bottom-mounted mooring~~ CTD and collects E19-T102-P1-BS

13:54 → OSI collects E19-T102-P1-AS, which is 3 feet below water surface.

14:00 → Move to next location

SO 6/17/10

Location Lower Passaic Date 6/17/10

Project / Client Lower Passaic PWCM USACE

at RM 6.7

14:25 → OSI takes water level reading at metal stake along river bank.

14:48 → OSI lowers CTD into water and touches bottom. Raises CTD ~ 3' above river bottom and collects sample E15-T067-P3-BS

14:50 → OSI raises CTD to 3' below water surface and collects sample E15-T067-P3-AS

14:55 → OSI throws anchor into river to bring up bottom mounted mooring. OSI washes down bottom mooring and downloads data.

16:00 → OSI pulls up surface mooring and downloads data. OSI will check to see if equipment is running properly.

16:30 → Surface mooring is re-deployed.

16:36 → OSI lowers bottom

SO 6/17/10

Location Lower Passaic River Date 6/17/10

Project / Client Lower Passaic PWCM USACE

mooring to river bottom.

N → 202833.27

E → 586139.61

Depth → 16.4'

16:40 → OSI lowers CTD to 3' above river bottom and collects sample E19-T067-P3-BS

16:42 → OSI raises CTD to 3' below water surface and collects sample E19-T067-P3-AS

16:45 → OSI begins putting away equipment and drive boat back to Passaic Yacht Club

17:10 → SO arrives back at Passaic Yacht Club. SO confirms with Dustin Koch that OSI will be leaving tomorrow at 8AM. SO leaves Passaic Yacht Club en route back home.

6/17/10

SO 6/17/10

Location Passaic Yacht Club Date 6/18/10

Project / Client Lower Passaic
USACE

07:50 → SO arrives at Yacht Club. Jon Walker is present and waiting outside of gate for OSI to arrive.

08:00 → OSI arrives at Yacht Club

08:05 → Jon Walker of AECOM gives health & safety meeting discussing topics such as slips, trips, falls, hydration & awareness.

08:25 → OSI takes water level reading from measuring point on bridge support ~400 yards north of RM 1.4. DTW is 5.34 feet.

08:38 → OSI goes back to measuring point and takes a second measurement, which is 5.66'

08:47 → OSI takes a third measurement from bridge support and is 5.86 feet.

08:55 → OSI lowers CTD to 3' above river bottom at RM1.4

-SO 6/18/10

Location Passaic Yacht Club Date 6/18/10

Project / Client Lower Passaic
USACE

and collects sample E15-T014-P3-BS

08:56 → OSI raises CTD to 3' below water surface and collects E15-T014-P3-AS

09:00 → OSI throws anchor overboard to hook onto bottom mooring

09:15 → On the 3rd attempt, OSI brings up bottom mooring. When mooring is brought to water surface, debris is piled on top. OSI vigirously cleans mooring until all mud is cleaned out.

09:20 → OSI begins downloading data and performing maintenance check.

10:00 → OSI pulls YSI attached to surface mooring out of water and cleans it. OSI will download data & perform maintenance check.

10:50 → OSI re-deploys

→SO 6/18/10

Location Passaic Date 6/18/10

Project / Client Lower Passaic River
RM 1.4, 4.2 - USACE

surface mooring at RM 1.4
10:55 → OSI lowers bottom mooring at RM 1.4.
Northing → 691240.30
Easting → 597996.02
Depth → 17.4'
11:01 → OSI lowers CTD to touch bottom of river. OSI raises CTD to 3' above bottom and collects sample E19-T014-P3-BS.
11:03 → OSI raises CTD to 3' below water surface and collects sample E19-T014-P3-AS
11:08 → OSI heads over to bridge ~ 100 yds north of RM 1.4 and takes another water level reading. Measurement reads 2.6 feet.
11:30 → OSI takes a water level reading from bridge ~ 100 yards north of RM 4.2
11:50 → OSI finishes taking

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Location Passaic Date 6/18/10

Project / Client Lower Passaic River
RM 1.4, 4.2 - USACE

water level measurement and drives to RM 4.2.
11:55 → OSI lowers CTD to 3' above river bottom and AECOM collects sample at E1S-T042-P1-BS
11:57 → OSI raises CTD to 3' below water surface and AECOM collects sample E1S-T042-P1-AS
12:00 → OSI throws anchor into water to catch pick-up-line attached to bottom mounted mooring.
12:15 → OSI pulls up bottom mooring and begins cleaning off muck / debris.
12:30 → OSI begins downloading data and performing check-up / monthly maintenance
13:00 → OSI pulls YSI attached to surface mooring out of water to download data and perform check-up.

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Location Passaic Date 6/18/10

Project / Client Lower Passaic River / USACE

RM 1.4, 4.2 → PWCM

13:56 → OSI puts surface mooring YSI back into RM 4.2

14:00 → OSI lowers bottom mooring into water at RM 4.2.

Northing → 692308.14

Easting → 588240.71

Depth → 21'

14:05 → OSI casts CTD to 3' above river bottom and collects sample E19-T042-P1-BS

14:08 → OSI collects ~~top~~ sample E19-T042-P1-AS and collects duplicate E19-T042-P1-AT after pulling CTD up to 3' below water surface

14:10 → OSI heads over to bridge and takes another water level measurement

14:30 → OSI drives back to Passaic Yacht Club.

14:55 → Arrive back at

SO 6/18/10

Location Passaic Date 6/18/10

Project / Client Lower Passaic River

RM 1.4, 4.2 → PWCM

Passaic Yacht Club. Jon Wilke of AECOM pours distilled water and collects field blank - 10A-E19-T042-P1-XR

Sample Summary

E15-T014-P3-BS
E15-T014-P3-AS
E19-T014-P3-BS
E19-T014-P3-AS
E15-T042-P1-BS
E15-T042-P1-AS
E19-T042-P1-BS
E19-T042-P1-AS
E19-T042-P1-AT (duplicate)
10A-E19-T042-P1-XR (Field blnk)

15:11 → SO packs up and drives back to Edison office.

SO 6/18/10

SO 6/18/10

Location Passaic Date 6-21-10

Project / Client Dundee Dam

PWCM - Split Sampling

13:30 → SO arrives at boat launch across from Elmwood High School. Jon Walter from AECOM; Jay DiLorenzo & Dustin Kach of OSI load boat up with equipment.

13:40 → OSI launches boat into the Passaic River and lowers acoustic doppler current profiler (ADCP).

13:45 → Jon Walter of AECOM instructs boat crew on health & safety while OSI calibrates ADCP.

14:40 → After calibrating ADCP, OSI drives to RM 17.5 to perform pre-service sampling transect surveys.

15:14 → OSI goes to RM 17.5 and drops CTD 3' below river bottom and AECOM collects sample E15-T17S-P2-BS and duplicate sample E15-T17S-P2-BT

SO 6/21/10

Location Passaic Date 6-21-10

Project / Client Dundee Dam

PWCM - Split Samples

15:15 → OSI pulls CTD to 3' below water surface and collects sample E15-T17S-P2-AS

15:23 → OSI pulls surface mooring (SI) out of water to download data and perform maintenance check.

15:54 → OSI downloads data / performs maintenance check and puts back into water by attaching it to the surface mooring

15:56 → OSI begins performing first transect at P1

16:16 → OSI drops CTD - 3' below water surface and collects sample E16-T17S-P1-AS. AECOM collects 1 x 1-L poly for SSC and 3 x 250 ml poly

16:21 → OSI lowers CTD - 3' above river bottom to collect sample E16-T17S

SO 6/21/10

Location Passic Date 6/21/10

Project / Client Dundee Dam

PWCM - Split Sampling

P2 - BS. CDM collects split sample.

16:23 → Raise CTD 3' below water surface

16:25 → OSI moves to P3 on the transect and lowers CTD ~3' below water surface. AECOM collects sample E16-T175-P3-AS

16:31 → OSI arrives at P4 along transect survey and lowers CTD ~3' below water surface while AECOM collects E16-T175-P4-AS

CDM split samples include:

10A-E16-T175-P2-BS-C

10A-E16-T175-P2-BS-C (SS)

10A-E16-T175-P2-AS-C (PQC/DUP)

10A-E16-T175-P2-AS-C (SS)

10A-E16-T175-P2-AS-X (SS Duplicate)

10A-E16-T175-P2-AS-X (PQC/PQC Dup1, Dup2)

10A-E16-T175-P2-AS-C (MS/MSD)

Depth → 10' of water near P2 location above Dundee Dam

SO 6/21/10

Location Passic Date 6/21/10

Project / Client Dundee Dam

16:40 → OSI drives back to boat launch to pack up for the day.

P2 GPS Coordinates

Northing → 747517.74

Easting → 544476.63

Depth → 10'

17:20 → SO leaves boat launch en route to office. Mel Haberle has chain of custody to include with samples in cooler. SO will pick up chain and pack samples to drop off at DESA.

6/21/10

SO 6/21/10

Location Passaic Date 6-22-10

Project / Client Lower Passaic River / USACE PWCM

06:45 → SO arrives at Passaic Yacht Club. Louis-Berger is just leaving dock to sample one location in Hackensack River.

Weather → Sunny, w/ light wind ~ 83°F

PPE → Level D Modified

* SO will wait until boat returns to dock.

07:45 → OSI returns to dock w/ Louis-Berger. SO boards Ecko-Ecko with Erin Murphy of AECOM and leaves yacht club en route to RM 1.4

08:05 → OSI reaches RM 1.4 and begins performing transect starting on west bank and crossing to east bank.

08:20 → Finish conducting transect and lower CTD into water ~ 3' above river bottom

08:22 → AECOM collects sample E17-T014-P1-BS

SO 6-22-10

Location Passaic Date 6-22-10

Project / Client Lower Passaic River PWCM

1 x 1-L poly for SS and 3 x 250 ml poly for TOC / DOC

08:23 → OSI raises CTD to 3' below water surface and collects sample E17-T014-P1-AS

08:28 → OSI lowers CTD into water at location P2 to 3' above bottom.

08:29 → AECOM collects sample E14-T014-P2-BS

08:30 → OSI raises CTD to ~3' below water surface and collects sample E17-T014-P2-AS

08:37 → OSI lowers CTD 3' above bottom to collect sample E17-T014-P3-BS COM collected split samples

08:39 → OSI raises CTD ~ 3' below water surface and collects sample E17-T014-P3-AS. COM collects

SO 6-22-10

Location Passaic Date 6-22-10

Project / Client Lower Passaic River PWCM

08:45 → OSI drives to next RM 4.2

08:52 → Arrive at RM 4.2 and OSI lowers ADCP into water to perform transect.

09:02 → Arrive at P1 location and lower CTD into water. OSI raises CTD ~ 3' above river bottom.

09:07 → AECOM collects sample at E17-T042-P1-BS

09:09 → AECOM collects sample E17-T042-P1-AS after raising CTD to 3' above water surface.

* CDM collected samples at P1 location at bottom and at top.

09:12 → OSI moves to P2 location and lowers CTD to 3' above river bottom. AECOM collects E17-T042-P2-BS

09:14 → OSI raises CTD to

→ 5 of 6 22-10

Location Passaic Date 6/22/10

Project / Client Lower Passaic River PWCM

3' below water surface and collects sample E17-T042-P2-AS and collects duplicate sample E17-T042-P2-AT.

09:16 → OSI lowers CTD into water at P3 location.

09:18 → AECOM collects sample at E17-T042-P3-BS.

09:19 → OSI raises CTD to ~ 3' below water surface and collects sample E17-T042-P3-AS

09:20 → Depart RM 4.2 to drive back to Passaic Yacht Club

P1-T042

Northing → 693300.45

Easting → 568242.40

Depth → 13'

P3-T014

Northing → 691222.15

Easting → 567982.48

Depth → 10

6/22/10

Location Passaic Date 6/22/10

Project / Client Lower Passaic River PWCM

10:00 → Meet back at Passaic Yacht Club. Call Mel Koberle (MK) and give sampling time. SO will meet at CPG Field Facility in Rutherford, NJ.

10:30 → SO arrives at CPG Field Facility. SO enters FOL sampling information while MK (Mel Koberle) and Dante Porzilli (DP) pack samples.

11:15 → Dante Porzilli leaves CPG Field Facility en route to DESA to drop off samples.

11:20 → SO & MK break for lunch. Ryan Ballenbach of OSI advises SO to meet back at Passaic Yacht Club around 13:30.

13:20 → SO waits at dock for OSI to return from Hackensack River location.

14:00 → OSI arrives back at Passaic Yacht Club and boards.

14:05 → OSI leaves Passaic

SO 6/22/10

Location Passaic Date 6/22/10

Project / Client Lower Passaic River PWCM

Yacht Club en route to RM 1.4.

14:15 → OSI reaches RM 1.4 and lowers ADCP to begin transect from west bnk to east bnk and back to west bnk.

14:28 → OSI takes a water column profile with CTD and raises CTD 3' above river bottom at E18-TO14-P1-BS.

14:31 → OSI raises CTD to 3' below water surface and collects E18-TO14-P1-AS

14:34 → OSI locates P2 location and casts CTD to profile water column. OSI notices a malfunction with the CTD and calls other unit for assistance.

15:42 → OSI meets up with other unit at RM 4.2. OSI

SO 6/22/10

Location Passaic Date 6/22/10

Project / Client Lower Passaic River / USACE PWCM

decides that other boat continuing good CTD will collect samples while this boat will conduct transect.

15:43 → OSI lowers ADCP into water and begins conducting survey starting from the west bank going to the east bank and then heading back to the west bank

16:05 → OSI drives back down to RM 1.4 and lowers ADCP for transect survey. Other OSI boat is collecting associated water samples.

* Please see Mel Koberle's log book for sample names/times taken during flood tide for this PWCM event.

16:25 → OSI en route back to Passaic Yacht Club

16:40 → Reach Passaic Yacht Club and wait for

SO 6/22/10

Location Passaic Date 6/22/10

Project / Client Lower Passaic River PWCM

Mk to arrive with crew from other boat. SO will drive back up to CPG Field Facility to drop off Mk.

17:40 → SO leaves CPG Field Facility to go home.

Sample Summary

E17-T014-P3-BS
E17-T014-P3-AS
E17-T042-P1-BS
E17-T042-P1-AS

SO 6/22/10

SO 6/22/10

Location LPSR Date 6/22/10
Project / Client Water Column Sampling & Maintenance E17

6²⁰ - Mell Koberle (MK) CDM onsite
OSI: Jason DeLoremo & Dustin Kach
AECOM: Jim Alderson
Weather: 80°F, sunny, humid
PPE: Level D mod w/ life jacket
6³⁵ - Crew mobilizing for sampling
7⁰⁰ - At RM 13.5 scanning bottom
7¹⁵ - AECOM collect 10A-E17-T135-P1-BS
7¹⁸ AECOM collect 10A-E17-T135-P1-AS
7²¹ AECOM collect 10A-E17-T135-P2-BS
7²² AECOM collect 10A-E17-T135-P2-AS
7²⁹ AECOM collect 10A-E17-T135-P3-AS
CDM collect split 10A-E17-T135-P3-AS-C
7²⁹ AECOM collect 10A-E17-T135-P3-BS
CDM collect split 10A-E17-T135-P3-BS-C
7³² - Heading to next location
7⁴³ - At RM 10.2 scanning bottom
7⁵⁴ AECOM collect 10A-E17-T102-P1-BS
CDM collect split 10A-E17-T102-P1-BS-C
7⁵⁶ AECOM collect 10A-E17-T102-P1-AS
CDM collect split 10A-E17-T102-P1-AS-C
7⁵⁹ AECOM collect 10A-E17-T102-P2-BS
8⁰⁰ AECOM collect 10A-E17-T102-P2-AS
8⁰⁶ AECOM collect 10A-E17-T102-P3-BS
MK 6/22/10

Location LPSR Date 6/22/10
Project / Client Water Column Sampling & Maintenance E-17

8⁰⁸ AECOM collect 10A-E17-T102-P3-AS
Note: AECOM collected duplicate at 8⁰⁶ 10A-E17-T102-P3BS called it "BT"
OSI corrected AECOM to collect dup at designated P3-BS not P2-BS 6/22/10
8¹⁰ - Heading to next sampling location
8²⁵ - At RM 6.7 scanning bottom 6/22/10
8³⁵ AECOM collect 10A-E17-T067-P1-BS
8³⁷ AECOM collect 10A-E17-T067-P1-AS
8⁴⁰ AECOM collect 10A-E17-T067-P2-BS
8⁴¹ AECOM collect 10A-E17-T067-P2-AS
8⁴⁷ AECOM collect 10A-E17-T067-P3-BS
CDM collect split 10A-E17-T067-P3-BS-C
8⁵⁰ AECOM collect 10A-E17-T067-P3-AS
CDM collect split 10A-E17-T067-P3-AS-C
Note: AECOM collect duplicate at 8⁴⁸ 10A-E-17-T067-P3-BS called it "BT"
8⁵⁵ - Heading back to CPG Facility
9³⁰ Back at CPG Facility 6/22/10
MK call Sean O'Hare for sample times:
T014 BS - 837 AS - 839
T042 BS - 907 AS - 909
MK doing Forms II Lite
MK 6/22/10

Location LPSR Date 6/22/10

Project / Client Water Column Sampling

E17 / E18

CDM Split Sample Summary

10A-E17-T135-BS-C	726
10A-E17-T135-AS-C	729
10A-E17-T102-BS-C	754
10A-E17-T102-AS-C	756
10A-E17-T067-BS-C	847
10AE17-T067-AS-C	850

mel 6/22/10

10[20] Dante Porzilli + Sean O'Hare onsite - packing samples lice! FTL

11[00] QA/QC COC against samples

Crew going to lunch - mob for afternoon

13[30] Boat launched to RM [135] Scanning bottom — 6/22/10

1[34] Aecom Collect 10A-E18-T135-P1-BS/AS

Time: 1[34]4 / 1[34]6 — mel — 6/22/10

1[34]9 Aecom collect 10A-E18-T135-P2/BS/AS

Time: 1[34]9 / 1[35]0 — mel — 6/22/10

1[35]4 Aecom collect 10A-E18-T135-P3-BS/AS

Time: 1[35]4 / 1[35]0 Duplicate "AT" at AS

time of duplicate: 1[35]7 — 6/22/10

14[00] Heading to next samp location

14[12] At RM [102] Scanning bottom

mel 6/22/10

Location LPSR Date 6/22/10

Project / Client Water Column Sampling

E18

14[23] AEcom Collect 10A-E18-T102-P1-BS/AS

Time: 14[23] / 1428 — mel — 6/22/10

1432 AEcom Collect 10A-E18-T102-P2-BS/AS

Time: 1432 / 1432 — mel — 6/22/10

1436 AEcom Collect 10A-E18-T102-P3-BS/AS Time: 1436 / 14[37] — mel

1440 Heading to next sample location

15[00] At RM [D6.7] scanning bottom

15[12] Aecom collect 10A-E18-T067-P1-BS/AS

Time: 15[12] / 15[13] — mel — 6/22/10

15[15] Aecom collect 10A-E18-T067-P2-BS/AS

Time: 15[15] / 15[16] — mel — 6/22/10

15[21] Aecom collect 10A-E18-T067-P3-BS/AS

Time: 15[21] / 15[23] — mel — 6/22/10

Note: large sheen of surface of water at P1 — mel 6/22/10

15[25] Heading to meet up w/ other boat crew. CTD meter is not working - unable to perform transects / sampling

15[42] - Crew dropped off bottleware They are going to perform transect scan and our boat will collect the samples The Hudson River transcet has been scanned + sampled — mel 6/22/10

Location LPSR Date 6/22/10

Project / Client Water Column

E18

1553 At Rm 04.2 - perform sampling
1555 AECOM Collect 10A-E18-T042-P1-BS/AS
Time: 1555/1557 6/22/10
1600 AECOM Collect 10A-E18-T042-P2-BS/AS
Time: 1600/1600 6/22/10
1603 AECOM collect 10A-E18-T042-P3-BS/AS
Time: 1603/1605 6/22/10
1608 Heading to next samp location
1615 At Rm 01.4 - other crew scanning bottom / transect
1620 This boat performs sampling
1628 AECOM Collects 10A-E18-T014-P1-BS/AS
Time: 1628 / 1629 6/22/10
1632 AECOM Collects 10A-E18-T014-P2-BS/AS
Time: 1632/1633
1635 AECOM Collects 10A-E18-T014-P2-BS/AS
Time: 1635 / 1638 Dup "AT" - 1638
Note: Crew collected P1 previously at 1429 (1829) - dumping sample when get back. - disregard sample
1640 Crew heading to Yacht Club - cannot fit under the bridges upstream
1650 At Yacht Club to CPG
1840 leaving CPG 6/22/10

Location Date

Project / Client

Attachment 3
Copies of Signed Chain of Custodies

USEPA Contract Laboratory Program
Generic Chain of Custody

Reference Case: R
Client No:

Region:	2	Date Shipped:	6/21/2010	**Chain of Custody Record**	Sampler Signature:
Project Code:		Carrier Name:	Hand Courier	Relinquished By (Date / Time)	Received By (Date / Time)
Account Code:		Airbill:		1	
CERCLIS ID:	NJD980528996	Shipped to:	DESA Laboratories/USEPA 2890 Woodbridge Avenue Bldg. 209 Edison NJ 08837 (732) 906-6886	2	
Spill ID:	96			3	
Site Name/State:	Lower Passaic River Restoration Project/N.			4	
Project Leader:	George Molnar				
Action:	Combined RI/FS				
Sampling Co:	CDM				

SAMPLE No.	MATRIX/ SAMPLER	CONC/ TYPE	ANALYSIS/ TURNAROUND	TAG No./ PRESERVATIVE/ Bottles	STATION LOCATION	SAMPLE COLLECT DATE/TIME	QC Type
10A-E16-T175-P2-AS-C	Surface Water/ Melissa Koberle	L/G	D/POCSS0.7 (21), SS (1.5) (21)	(Ice Only) (3)	10A-E16-T175-P2-AS-C	S: 6/21/2010 16:23	Lab QC
10A-E16-T175-P2-AS-X	Surface Water/ Melissa Koberle	L/G	D/POCSS0.7 (21), SS (1.5) (21)	(Ice Only) (2)	10A-E16-T175-P2-AS-X	S: 6/21/2010 16:23	Field Duplicate
10A-E16-T175-P2-BS-C	Surface Water/ Melissa Koberle	L/G	D/POCSS0.7 (21), SS (1.5) (21)	(Ice Only), 100 (Ice Only) (2)	10A-E16-T175-P2-BS-C	S: 6/21/2010 16:21	--

Shipment for Case Complete? N	Sample(s) to be used for laboratory QC: 10A-E16-T175-P2-AS-C	Additional Sampler Signature(s):	Chain of Custody Seal Number:
Analysis Key:	Concentration: L = Low, M = Low/Medium, H = High	Type/Designate: Composite = C, Grab = G	Shipment Iced? _____

D/POCSS0.7 = DOC POC Suspended Solids (0.7 um filt, SS (1.5) = Suspended Solids (1.5 um)

TR Number: 2-043013577-062210-0004

PR provides preliminary results. Requests for preliminary results will increase analytical costs.

Send Copy to: Sample Management Office, Attn: Heather Bauer, CSC, 15000 Conference Center Dr., Chantilly, VA 20151-3819; Phone 703/818-4200; Fax 703/818-4602

REGION COPY

USEPA Contract Laboratory Program
Generic Chain of Custody

Reference Case: R
Client No:

Region:	2
Project Code:	
Account Code:	
CERCLIS ID:	NJD980528996
Spill ID:	96
Site Name/State:	Lower Passaic River Restoration Project/N.
Project Leader:	George Molnar
Action:	Combined RI/FS
Sampling Co:	CDM

Date Shipped:	6/22/2010
Carrier Name:	Hand Courier
Airbill:	
Shipped to:	DESA Laboratories/USEPA 2890 Woodbridge Avenue Bldg. 209 Edison NJ 08837 (732) 906-6886

Chain of Custody Record

Sampler Signature:

	Relinquished By (Date / Time)	Received By (Date / Time)
1	6/22/10	
2		
3		
4		

SAMPLE No.	MATRIX/ SAMPLER	CONC/ TYPE	ANALYSIS/ TURNAROUND	TAG No./ PRESERVATIVE/ Bottles	STATION LOCATION	SAMPLE COLLECT DATE/TIME		QC Type
10A-E17-T01 4-P3-AS-C	Surface Water/ Melissa Koberle	L/G	D/POCSS0.7 (21), SS (1.5) (21)	(Ice Only) (2)	10A-E17-T014-P3-AS-C	S: 6/22/2010	8:39	--
10A-E17-T01 4-P3-BS-C	Surface Water/ Melissa Koberle	L/G	D/POCSS0.7 (21), SS (1.5) (21)	(Ice Only) (2)	10A-E17-T014-P3-BS-C	S: 6/22/2010	8:37	--
10A-E17-T04 2-P1-AS-C	Surface Water/ Melissa Koberle	L/G	D/POCSS0.7 (21), SS (1.5) (21)	(Ice Only) (2)	10A-E17-T042-P1-AS-C	S: 6/22/2010	9:09	--
10A-E17-T04 2-P1-BS-C	Surface Water/ Melissa Koberle	L/G	D/POCSS0.7 (21), SS (1.5) (21)	(Ice Only) (2)	10A-E17-T042-P1-BS-C	S: 6/22/2010	9:07	--
10A-E17-T06 7-P3-AS-C	Surface Water/ Melissa Koberle	L/G	D/POCSS0.7 (21), SS (1.5) (21)	(Ice Only) (2)	10A-E17-T067-P3-AS-C	S: 6/22/2010	8:50	--
10A-E17-T06 7-P3-BS-C	Surface Water/ Melissa Koberle	L/G	D/POCSS0.7 (21), SS (1.5) (21)	(Ice Only) (2)	10A-E17-T067-P3-BS-C	S: 6/22/2010	8:47	--
10A-E17-T10 2-P1-AS-C	Surface Water/ Melissa Koberle	L/G	D/POCSS0.7 (21), SS (1.5) (21)	(Ice Only) (2)	10A-E17-T102-P1-AS-C	S: 6/22/2010	7:56	--
10A-E17-T10 2-P1-BS-C	Surface Water/ Melissa Koberle	L/G	D/POCSS0.7 (21), SS (1.5) (21)	(Ice Only) (2)	10A-E17-T102-P1-BS-C	S: 6/22/2010	7:54	--
10A-E17-T13 5-P3-AS-C	Surface Water/ Melissa Koberle	L/G	D/POCSS0.7 (21), SS (1.5) (21)	(Ice Only) (2)	10A-E17-T135-P3-AS-C	S: 6/22/2010	7:29	--
10A-E17-T13 5-P3-BS-C	Surface Water/ Melissa Koberle	L/G	D/POCSS0.7 (21), SS (1.5) (21)	(Ice Only) (2)	10A-E17-T135-P3-BS-C	S: 6/22/2010	7:26	--

Shipment for Case Complete? N	Sample(s) to be used for laboratory QC:	Additional Sampler Signature(s):	Chain of Custody Seal Number:
Analysis Key:	Concentration: L = Low, M = Low/Medium, H = High	Type/Designate: Composite = C, Grab = G	Shipment Iced? _____

D/POCSS0.7 = DOC POC Suspended Solids (0.7 um filt, SS (1.5) = Suspended Solids (1.5 um)

TR Number: 2-043013577-062110-0003

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